REMARKS

Claims 1-24 are currently pending in this application. Claims 3-20, 22 and 24 have been withdrawn from consideration as directed to non-elected subject matter. Claims 1, 2, 21 and 23 are under consideration and have been amended, *supra*, without prejudice or admission.

The specification has also been amended to correct certain informalities. In particular, the Title of the Invention has been amended to recite "Composition For Detecting Beta-1,3-Glucan" to clearly indicate the invention to which the claims are directed. Finally, an Abstract of the Disclosure is submitted herewith at **Tab 1** in accordance with 37 C.F.R. 1.72 (b).

No new matter has been introduced by these amendments. Therefore, entry and consideration of the amendments are respectfully requested.

I. The Rejections Under 35 U.S.C. § 102(b), Should Be Withdrawn

Claims 1, 2, 21 and 23 have been rejected under 35 U.S.C. § 102(b) as anticipated by Asokan and/or Leonard.

Leonard Reference:

The Examiner alleges that the all the features of the above mentioned claims are taught by Leonard.

Leonard discloses fractions obtained from hemocyte lysate or plasma of insects (*see,* page 805, Table 1 of the Leonard reference). Leonard does not disclose a mixture of hemocyte lysate or insect plasma as called for in claim 1. Claim 21 calls for lysate treated fractions. Leonard does not disclose a composition obtained from lysate treated fractions. Accordingly, the subject matter of claims 1, 2, 21, and 23 of the present application is novel over Leonard.

Asokan Reference:

The Examiner contends that claims 1 and 21 are anticipated by Asokan.

Claims 1 and 21 call for a composition prepared by the method comprising selecting fractions exhibiting phenoloxidase activity by β-1,3-glucan. The Asokan reference merely discloses

that proPO enzyme is present in both hemocytes and plasma of insects but does not mention whether fractions obtained from hemocyte and plasma of insects have phenoloxidase activity.

For this reason, claims 1 and 21 are not disclosed by Asokan and withdrawal of this ground for rejection is believed to be in order.

II. The Rejections Under 35 U.S.C. § 103(a), Should Be Withdrawn

Claims 2 and 23 are rejected as obvious over the combination of Asokan in view of Ashida. The Examiner alleges that it would have been obvious to one of ordinary skill in the art to make the claimed composition as taught by both Asokan and Ashida and detect the concentrations of β-1,3-glucan as taught by Ashida. This rejection is not believed to be well taken and should be withdrawn.

The Asokan reference has been discussed, *supra*, in connection with the rejections over 35 U.S.C. § 102 (b). Asokan discloses fractions obtained from the plasma and hemocyte of insects and crustaceans, but does not teach or suggest the detection sensitivity of the presently claimed fractions. Moreover, Asokan does not teach or suggest whether the plasma and hemocyte fractions have phenoloxidase activity, as defined in the present claims.

Ashida does not overcome the deficiencies of Asokan. In particular, the reagent compositions of Ashida have limited sensitivity and only detect β-1,3-glucan concentration higher than 0.1 ng/ml (*see* Fig. 3 on sheet 2 of 4 of Ashida). By contrast, claims 2 and 23 call for compositions which detect β-1,3-glucan concentrations as low as 20 pg/ml.

Applicant's invention has superior properties, *i.e.*, detecting β-1,3-glucan concentrations as low as 20 pg/ml. A skilled artisan could not have expected these improved properties without the benefit of the teachings in the present application, even upon considering the combined teachings of Asokan and Ashida. For this reason, the present claims are not obvious in view of the cited art and this rejection should be withdrawn.

III. The Rejections Under 35 U.S.C. § 112, Second Paragraph, Have Been Obviated

Claims 1, 2, 21 and 23 have been rejected under the second paragraph of 35 U.S.C. § 112, as being indefinite for failing to particularly point out and distinctly claim the subject matter.

The Examiner objects to the term "existing" in claims 1 and 21 and suggests that it be replaced with "present". The claims have been amended to incorporate the Examiner's suggestions and address his objections.

The Examiner contends that the composition and the concentration disclosed in claim 2 are not well defined. Claim 2 has been amended to depend from claim 1. Additionally, claim 2 has been amended to specify concentrations "as low as 20 pg/ml" in place of "minimum down to 20 pg/ml". This is believed to address the issues raised by the Examiner.

The Examiner contends that the composition in claim 23 cannot be characterized by how it performs, *i.e.*, by measuring the phenoloxidase activity. In response, claim 23 has been amended to call for "phenoloxidase activity".

In light of the above mentioned amendments, the objections to claims 1, 2, 21 and 23 are believed to have been overcome. Accordingly, withdrawal of these objections is believed to be in order.

IV. The Objections to the Specification Have Been Obviated

The Office Action notes that there are certain informalities in the specification that should be corrected. The Title of the Invention has been amended to "Composition For Detecting Beta-1,3-Glucan" to better indicate the invention to which the claims are directed. Finally, the Examiner pointed out that this application does not contain an abstract. In response, An Abstract of the Disclosure is submitted herewith at **Tab 1** in accordance with 37 C.F.R. 1.72 (b).

These amendments are believed to address the Examiner's objections to the specification. Accordingly, Applicants respectfully request withdrawal of such objections.

V. Conclusion

In light of the above mentioned amendments and arguments, all of the pending claims in this application are believed to be in condition for allowance. Entry and consideration of these amendments and remarks are therefore respectfully requested. An allowance is earnestly sought.

Respectfully submitted,

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ABSTRACT

The present invention relates to a composition for detecting an infinitesimal quantity of beta-1,3-glucan, a preparation method thereof and a diagnostic kit detecting beta-1,3-glucan. The composition of the present invention shows phenoloxidase activity by beta-1,3-glucan in the presence of calcium ions. Using the composition of the present invention, a sample is gathered from a specimen, the composition of the present invention and calcium ions are added to the sample, and beta-1,3-glucan is detected by measuring phenoloxidase activity.